



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/427,031	10/26/1999	H. PAUL HOLZWORTH	1011.1018/MJ	2648

21171 7590 05/06/2003

STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON, DC 20001

EXAMINER

LEE, CHI HO A

ART UNIT	PAPER NUMBER
----------	--------------

2663

DATE MAILED: 05/06/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/427,031

Applicant(s)

HOLZWORTH ET AL.

Examiner

Andrew Lee

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,15-20,22-24,28,30,35,36,44-49,51-53,57,59,64,65,73-78,80-82,86 and 88 is/are rejected.
- 7) ☒ Claim(s) 2,3,6-14,21,25-27,29,31-33,37-43,50,54-56,58,60-63,66-72,79,83-85 and 87 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 3, 32, 61 are objected to because of the following informalities:
Claims 3, 32, 61 in line 2, "variable speed traffic factor" should be
- the variable speed traffic factor- . Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 5, 15-20, 22-24, 28, 30, 35, 36, 44-49, 51-53, 57, 59, 64, 65, 73-78, 80-82, 86 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramamurthy et al U.S. Patent Number 6,046,981 in view of Awdeh et al U.S. Patent Number 5,991,268.

Re Claims 1, 30, 59, and 88, '981 teaches CAC for VBR connections wherein equivalent bandwidth is allocated for each connections (See col.10, lines 63 ~ col. 11, lines 1-35).

'981 fails to explicitly teach increasing the equivalent bandwidths of the variable speed connections by a scaling factor to achieve an assigned bandwidth.

However, '268 teaches that should a connection acquire more rate than its MCR (analogous to EBR), it is possible to achieve link utilization simply by scaling every connection's actual rate by a under-load factor (scaling factor), wherein the under-load

factor increases the assigned rate (See col. 11, lines 50-62 & col. 19, lines 54-60). One skilled would have been motivated by '268 to incorporate the under-load factor into the allocation of EBR of '981 to improve throughput and bandwidth efficiency.

'268 further teaches that the under-load factor is updated periodically (adjusting the scaling factor) (See col. 10, lines 61-64). In combination with '981 in view of '268, once the VBR connections are scaled, the bandwidth available for the VBR is updated (the assigned bandwidth).

'981 teaches in fig. 2, upon receiving a connection request for a particular class of service step 210 (a new variable connection), step 240 determines whether the requested bandwidth for VBR can be allocated without exceeding the maximum bandwidth allowable to VBR class, wherein the availability of the bandwidth for the particular VBR class is dependent on existing VBR connections and the new requested VBR connection whereby the call is either admitted step 260 or rejected step 250.

Therefore, it would have been obvious to one ordinary skilled to incorporate the teaching of '268 into the teaching of '981 to improve throughput by scaling the VBR based on bandwidth availability so as to achieve bandwidth efficient.

Re Claims 4, 35, 64, '981 teaches CAC summing existing and new constant speed connections (See col. 8, lines 63 ~ col. 9, lines 1-50); further teaches determining the maximum CBR capacity (a maximum factor) to ensure the QoS requirements; wherein the additional CBR capacity is dependent on "new" and "old" CBR capacity determination (adjusting the maximum factor).

'981 fails to explicitly teach reducing a bandwidth available to constant speed connections. As '268 teaches that it is possible to achieve link utilization simply by scaling every connection's actual rate by a under-load factor (scaling factor), one skilled in art would have motivated to de-scale with overload factor would reduce the actual rate of the connections (reducing a bandwidth) to enable fairness to the new constant speed connection. Hence, when the assigned CBR is increased by the under-load factor, reducing the CBR with the overload factor enables the new constant connections to be admitted.

Re Claims 5, 36, 65, refer to Claim 1, see fig. 2, step 240.

Re Claims 15, 44, 73, '981 teaches CAC summing existing and new constant speed connections (See col. 8, lines 63 ~ col. 9, lines 1-50); further teaches determining the maximum CBR capacity (a maximum factor) to ensure the QoS requirements; wherein the additional CBR capacity is dependent on "new" and "old" CBR capacity determination (adjusting the maximum factor).

'981 fails to explicitly teach reducing a bandwidth available to constant speed connections. As '268 teaches that it is possible to achieve link utilization simply by scaling every connection's actual rate by a under-load factor (scaling factor), one skilled in art would have motivated to de-scale with overload factor would reduce the actual rate of the connections (reducing a bandwidth) to enable fairness to the new constant speed connection. Hence, when the assigned CBR is increased by the under-load factor, reducing the CBR with the overload factor enables the new constant connections to be admitted.

Re Claims 16, 19, 45, 48, 74, 77 refer to Claim 15, the maximum factor is adjusted while it is online because, the connections are not terminated and reallocated.

Re Claims 17, 46, 49, 75, 78, '981 in view of '268, once the CBR connections are scaled, the bandwidth available for the CBR is updated. '981 teaches in fig. 2, receiving a connection request for a particular class of service step 210 (a new constant speed connection), step 240 determines whether the requested bandwidth for CBR can be allocated without exceeding the maximum bandwidth allowable to CBR class, wherein depending on the availability of the bandwidth for the particular CBR class, the call is either admitted step 260 or rejected step 250.

Re Claims 18, 20, 47, 76, refer to Claim 15, wherein the overload factor is a constant speed factor.

Re Claims 22, 51, 80, fig. 1 of '981 teaches CAC for each class service wherein the allocation of the UBR rate is based on the availability of the free pool. It is known that UBR class does not guaranteed any QoS parameters and the bandwidth allocation to the UBR is based on best effort. It is also known that SCR is negotiated to represent the average throughput to be permitted over the connection. Although, the UBR does not guaranteed any QoS, it is apparent to one skilled that the user can negotiated any known parameters available for the service contract, i.e., PCR parameter. Hence, by contracting only for the PCR, maximum rate can be allocated for the UBR connection (UBR not having a sustained cell rate). '981 fails to explicitly teach determining the rate based on the SCR factor.

However, '268 teaches a scaling factor (UBR factor) adjusting the actual rate based on the availability (See col. 11, lines 50-62). '268 further teaches that the scaling factor is updated periodically (See col. 10, lines 61-64). Base on free pool of bandwidth,

PCR is allocated to UBR connection requests. When more bandwidth is available, the assigned bandwidth is scaled by the scaling factor (determined SCR based on the scaling factor) wherein the scaling factor is periodically updated (adjusting the scaling factor). One skilled in the art would have been motivated to scale the UBR rate with the scaling factor to improve throughput and bandwidth efficiency.

Re Claims 23, 52, 81, refer to Claim 22, initiate rate allocated to the UBR connections are PCR is scaled (multiplied) with the Under-load factor (SCR factor).

Re Claims 24, 53, 82, refer to Claim 16.

Re Claims 28, 57, 86, refer to Claim 4.

Allowable Subject Matter

4. Claims 2, 3, 6-14, 21, 25-27, 29, 31-33, 37-43, 50, 54-56, 58, 60-63, 66-72, 79, 83-85, and 87 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In combination with claims 1 & 8, 22 & 25, 30 & 39, 51 & 54, 59 & 68, 80 & 83 prior art fails to teach the CAC determines whether to accept or refuse a new UBR and new VBR at least a portion of the unspecified connections not having a SCR

wherein the SCR being determined based on an SCR factor and further adjusting the SCR factor.

In combination with claims 18 & 21, 47 & 50, 76 & 79, prior art fails to teach a new constant speed connection is accepted based on the claimed equation.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 703-305-1500. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



A

April 29, 2003